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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/826,697	04/19/2004	Takayuki Kato	Q81163	9605

23373 7590 03/09/2006  
SUGHRUE MION, PLLC  
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WASHINGTON, DC 20037

EXAMINER

VANOY, TIMOTHY C

ART UNIT	PAPER NUMBER
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1754

DATE MAILED: 03/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/826,697

Applicant(s)

KATO ET AL.

Examiner

Timothy C. Vanoy

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1754

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 26 August 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2, 4 and 6 is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☒ Claim(s) 1, 3 and 5 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 August 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 08/26/2004.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Priority***

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Specification***

- a) The abstract is objected to for being grammatically informal. In line 1 in the abstract, it appears that --which is-- should be inserted between “particles” and “capable”.
- b) The abstract is objected to for being grammatically informal. The abstract does not set forth where the generated micro-liquid droplets are introduced into. The phrase: “. . . , introducing the generated micro-liquid droplets only for the portion of minute liquid droplets having a certain grain size or less by an air stream. . .” is grammatically incorrect. It is suggested to substitute --only minute liquid droplets having a certain grain size or less which have been classified by an air stream into a furnace-- in lieu of “the generated micro-liquid droplets only for the portion of minute liquid droplets having a certain grain size or less by an air stream”.

### ***Claim Objections***

- a) Claim 1 is objected to for being grammatically informal. In claim 1 line 5, it is suggested to insert --the aqueous solution with-- between “irradiating” and “supersonic”;

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in claim 1 line 7, it is suggested to substitute --size-- in lieu of "sized"; in claim 1 line 7, it is suggested to insert --classification with an-- between "by" and "air"; in claim 1 line 7, it is suggested to insert --;-- after "stream"; in claim 1 line 7, it is suggested to substitute --selected-- in lieu of "generated" and in claim 1 line 8, it is suggested to substitute --selected-- in lieu of "generated".

b) In claim 3 lines 4 and 5, it appears to have been the applicants' intention to recite "or aluminum acetate" in lieu of "and aluminum".

c) In claim 5, it appears to have been the applicants' intention to recite "6,000" in lieu of "6", as supported on pg. 6 lines 16-18 in the applicants' specification.

***Claim Rejections - 35 USC § 102***

***Claim Rejections - 35 USC § 103***

None of the claims have been rejected under either 35USC102 or 35USC103 because there is nothing in either Japan patent document no. 2003089519 A or in the article titled "Preparation of Hollow Alumina Microspheres by Ultrasonic Spray Pyrolysis" by Kato et al. which teaches or suggests the presence of either a surfactant or organic acid in the aqueous solution subjected to ultrasonic or supersonic radiation, as set forth in the applicants' independent claim and the claims dependent thereon.

The following references, which are indicative of the state of the art, are made of record:

U. S. Patent 1,871,793 disclosing a process for making hollow globules of alumina;

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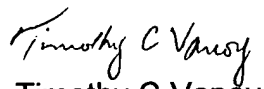
U. S. Patent 6,004,525 disclosing hollow oxide particles and a process for producing the same, and

Japan patent document no. 61-31,315 A disclosing the production of alumina balloons.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy C. Vanoy whose telephone number is 571-272-8158. The examiner can normally be reached on Mon-Fri 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman, can be reached on 571-272-1358. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Timothy C Vanoy  
Patent Examiner  
Art Unit 1754